

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1 **Claim 1.** (Currently amended) A method for modifying the glycosylation pattern of a  
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase ~~selected from FucT-IV,~~  
3 ~~FucT-V, FucT-VI, FucT-VII, and combinations thereof, wherein said first fucosyltransferase~~  
4 ~~lacks a membrane anchoring domain,~~ said method comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6 moiety and the first fucosyltransferase under appropriate conditions to transfer  
7 fucose from the fucose donor moiety to the acceptor moiety, such that the  
8 glycopeptide has a substantially uniform fucosylation pattern;

9 wherein said acceptor moiety comprises a member selected from Gal $\beta$ 1,4GlcNAc-OR  
10 and NeuAc $\alpha$ 2,3Gal $\beta$ 1,4GlcNAc-OR, wherein R is an amino acid, a saccharide, an  
11 oligosaccharide or an aglycon group having at least one carbon atom and is linked  
12 to or is part of a glycopeptide;

13 wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain,  
14 and is a member selected from FucT-IV, FucT-V, FucT-VI, FucT-VII, and  
15 combinations thereof.

1 **Claim 2.** (Previously presented) The method according to claim 1, wherein the  
2 glycopeptide comprises a second acceptor moiety for a second fucosyltransferase, and the  
3 method further comprises

4 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
5 moiety and the second fucosyltransferase under appropriate conditions to transfer  
6 fucose from the fucose donor moiety to the acceptor moiety, such that the  
7 glycopeptide has a substantially uniform fucosylation pattern.

1 **Claim 3.** (Original) The method according to claim 2, wherein the glycopeptide is  
2 contacted with the first fucosyltransferase and the second fucosyltransferase simultaneously.

1 **Claim 4.** (Original) The method according to claim 2, wherein the glycopeptide is  
2 contacted with the first fucosyltransferase and the second fucosyltransferase sequentially without  
3 isolation of product resulting from contacting with the first fucosyltransferase.

1 **Claim 5.** (Cancelled)

1 **Claim 6.** (Previously presented) The method according to claim 2, wherein the second  
2 fucosyltransferase is a member selected from FucT-IV, FucT-V, FucT-VI, FucT-VII and  
3 combinations thereof.

1 **Claim 7.** (Cancelled)

1 **Claim 8.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein the  
2 fucosyltransferase is recombinantly produced.

1 **Claim 9.** (Cancelled)

1 **Claim 10.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein at least  
2 about 80% of the acceptor moieties on the glycopeptide are fucosylated.

1 **Claim 11.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein the  
2 glycopeptide is reversibly immobilized on a solid support.

1 **Claim 12.** (Currently amended) The method according to ~~[[of]]~~ claim 11, wherein the solid  
2 support is an affinity chromatography medium.

1 **Claim 13.** (Currently amended) The method according to ~~[[of]]~~ claim 1, wherein the  
2 glycopeptide is a full-length glycopeptide.

1 **Claim 14.** (Currently amended) The method according to [[of]] claim 1, wherein the  
2 glycopeptide is a fragment of a full length glycopeptide comprising an active site of the full-  
3 length glycopeptide.

1 **Claim 15.** (Currently amended) The method according to claim 1, wherein the glycopeptide  
2 is an IgG chimera.

1 **Claim 16.** (Currently amended) The method according to [[of]] claim 1, wherein the  
2 glycopeptide is a member selected from a hormone, a growth factor, an enzyme, an enzyme  
3 inhibitor, a cytokine, a receptor, a ligand, and a ~~or a~~ monoclonal antibody.

1 **Claim 17.** (Currently amended) The method according to [[of]] claim 1, wherein the  
2 glycopeptide is on a cell.

1 **Claim 18.** (Cancelled)

1 **Claim 19.** (Currently amended) The method according to [[of]] claim 1, wherein the fucose  
2 donor moiety is GDP-fucose.

1 **Claim 20.** (Currently amended) The method according to [[of]] claim 1, further comprising,  
2 prior to step (a), contacting said glycopeptide with a glycosyltransferase other than a  
3 fucosyltransferase and a donor moiety other than a fucose donor moiety, thereby glycosylating  
4 the glycopeptide with a glycosyl moiety other than a fucose unit.

1 **Claim 21.** (Currently amended) The method according to [[of]] claim 20, wherein the  
2 glycosyltransferase is a member selected from the group consisting of galactosyltransferase,  
3 sialyltransferase and combinations thereof.

1 **Claim 22.** (Withdrawn) A composition comprising a glycopeptide fucosylated according to  
2 the method of claim 1.

1 **Claim 23.** (Withdrawn) The composition of claim 22, wherein at least 80% of the acceptor  
2 moieties on the glycopeptide are fucosylated.

1 **Claim 24.** (Withdrawn) The composition of claim 22, wherein glycopeptide is attached to a  
2 solid support.

1 **Claim 25.** (Withdrawn) The composition of claim 24, wherein the solid support is an  
2 affinity chromatography medium.

1 **Claim 26.** (Withdrawn) The composition of claim 22, wherein the glycopeptide is a full-  
2 length glycopeptide.

1 **Claim 27.** (Withdrawn) The composition of claim 22, wherein the glycopeptide comprises  
2  $\text{Fuc}\alpha 1,2\text{Gal}\beta 1\text{-OR}$ ,  $\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,4/3)\text{GlcNAc-OR}$ ,  
3  $\text{NeuAc}\alpha 2,3\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,3/4)\text{GlcNAc-OR}$ ,  $\text{Fuc}\alpha 1,2\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,4/3)\text{GlcNAc}\beta\text{-OR}$   
4 wherein R is an amino acid, a saccharide, an oligosaccharide or an aglycon group having at least  
5 one carbon atom and is linked to or is part of a glycopeptide.

1 **Claim 28.** (Withdrawn) The composition of claim 22, wherein the glycopeptide comprises  
2  $\text{NeuAc}\alpha 2,3\text{Gal}\beta 1,3/4(\text{Fuc}\alpha 1,3/4)\text{GlcNAc-OR}$ , wherein R is an amino acid, a saccharide, an  
3 oligosaccharide or an aglycon group having at least one carbon atom and is linked to or is part of  
4 a glycopeptide.

1 **Claim 29.** (Withdrawn) The composition of claim 22, wherein the glycopeptide is a  
2 hormone, a growth factor, an enzyme, an enzyme inhibitor, a cytokine, a receptor, a ligand, or a  
3 monoclonal antibody.

1 **Claim 30.** (Withdrawn) The composition of claim 22, wherein the glycopeptide is on a cell.

1 **Claim 31.** (Currently amended) A method of producing a recombinant glycopeptide having a  
2 fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
5 fucose donor moiety and ~~[[the]] a first fucosyltransferase is selected from FucT-~~  
6 ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof,~~ under appropriate  
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor  
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated  
9 recombinant glycopeptide, ~~wherein said first fucosyltransferase lacks a membrane~~  
10 ~~anchoring domain;~~

11 wherein said acceptor moiety comprises a member selected from Gal $\beta$ 1,4GlcNAc-OR  
12 and NeuAc $\alpha$ 2,3Gal $\beta$ 1,4GlcNAc-OR, wherein R is an amino acid, a saccharide, an  
13 oligosaccharide or an aglycon group having at least one carbon atom and is linked  
14 to or is part of a glycopeptide;

15 wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain,  
16 and is a member selected from FucT-IV, FucT-V, FucT-VI, FucT-VII, and  
17 combinations thereof; and

18 (b) terminating the transfer of the fucose to the fucose-acceptor when the fucosylation  
19 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 32.** (Original) The method according to claim 31, further comprising:

2 (c) assaying the fucosylation pattern of the fucosylated recombinant glycopeptide,  
3 thereby determining whether the fucosylation pattern is substantially identical to  
4 the known fucosylation pattern.

1 **Claim 33.** (Original) The method according to claim 31, wherein the terminating is due to  
2 exhausting in the reaction mixture a member selected from the group consisting of the  
3 fucosyltransferase, the fucose donor moiety, the fucose acceptor quench with a chelator and  
4 combinations thereof.

1 **Claim 34.** (Original) The method according to claim 31, wherein the glycopeptide  
2 comprises a second acceptor moiety for a second fucosyltransferase, and the method further  
3 comprises contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
4 moiety and the second fucosyltransferase under appropriate conditions to transfer fucose from  
5 the fucose donor moiety to the second acceptor moiety.

1 **Claim 35.** (Currently amended) The method according to claim 34, wherein the  
2 glycopeptide is contacted with the first fucosyltransferase and the second fucosyltransferase  
3 simultaneously.

1 **Claim 36.** (Original) The method according to claim 34, wherein the glycopeptide is  
2 contacted with the first fucosyltransferase and the second fucosyltransferase sequentially without  
3 isolation of product resulting from contacting with the first fucosyltransferase.

1 **Claim 37.** (Cancelled)

1 **Claim 38.** (Previously presented) The method according to claim 34, wherein the second  
2 fucosyltransferase is eukaryotic and a member selected from FucT-IV, FucT-V, FucT-VI,  
3 FucT-VII and combinations thereof.

1 **Claim 39.** (Cancelled)

1 **Claim 40.** (Currently amended) The method according to [[of]] claim 31, wherein the  
2 fucosyltransferase is recombinantly produced.

1 **Claim 41.** (Cancelled)

1 **Claim 42.** (Currently amended) The method according to [[of]] claim 31, wherein at least  
2 about 80% of the acceptor moieties on the glycopeptide are fucosylated.

1 **Claim 43.** (Currently amended) The method according to [[of]] claim 31, wherein the  
2 glycopeptide is reversibly immobilized on a solid support.

1 **Claim 44.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the solid  
2 support is an affinity chromatography medium.

1 **Claim 45.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the  
2 glycopeptide is a full-length glycopeptide.

1 **Claim 46.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the  
2 glycopeptide is a fragment of a full length glycopeptide comprising an active site of the full-  
3 length glycopeptide.

1 **Claim 47.** (Currently amended) The method according to claim 31, wherein the  
2 glycopeptide is an IgG chimera.

1 **Claim 48.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the  
2 glycopeptide is a member selected from a hormone, a growth factor, an enzyme, an enzyme  
3 inhibitor, a cytokine, a receptor, a ligand, ~~[[or]]~~ and a monoclonal antibody.

1 **Claim 49.** (Currently amended) The method according to ~~[[of]]~~ claim 31 wherein the  
2 glycopeptide is on a cell.

1 **Claim 50.** (Cancelled)

1 **Claim 51.** (Currently amended) The method according to ~~[[of]]~~ claim 31, wherein the  
2 fucose donor moiety is GDP-fucose.

1 **Claim 52.** (Currently amended) The method according to ~~[[of]]~~ claim 31, further  
2 comprising, prior to step (a), contacting said glycopeptide with a glycosyltransferase other than a  
3 fucosyltransferase and a donor moiety other than a fucose donor moiety, thereby glycosylating  
4 the glycopeptide with a glycosyl moiety other than a fucose unit.

1 **Claim 53.** (Currently amended) The method according to ~~[[of]]~~ claim 52, wherein the  
2 glycosyltransferase is a member selected from the group consisting of galactosyltransferase,  
3 sialyltransferase and combinations thereof.

1 **Claim 54.** (Original) A large-scale method for modifying the glycosylation pattern of a  
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, said method  
3 comprising:

4       contacting at least about 500 mg of glycopeptide with a reaction mixture that comprises a  
5       fucose donor moiety and the first fucosyltransferase under appropriate conditions  
6       to transfer fucose from the fucose donor moiety to the acceptor moiety, such that  
7       the glycopeptide has a substantially uniform fucosylation pattern.

1 **Claim 55.** (Original) A large-scale method of producing a recombinant glycopeptide having  
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3 fucosylation pattern, said method comprising:

4       (a) contacting at least about 500 mg of the recombinant glycopeptide with a reaction  
5       mixture that comprises a fucose donor moiety and the fucosyltransferase under  
6       appropriate conditions to transfer fucose from the fucose donor moiety to a fucose  
7       acceptor moiety on said recombinant glycopeptide, thereby producing a  
8       fucosylated recombinant glycopeptide; and

9       (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation  
10       pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 56.** (Cancelled)

1 **Claim 57.** (Cancelled)

1 **Claim 58.** (Cancelled)



1   **Claim 59.**     (Cancelled)

1   **Claim 60.**     (Cancelled)

1   **Claim 61.**     (Cancelled)

1   **Claim 62.**     (Cancelled)

1   **Claim 63.**     (Cancelled)

1   **Claim 64.**     (Cancelled)

1   **Claim 65.**     (Previously presented) A method for modifying the glycosylation pattern of a  
2   glycopeptide comprising an acceptor moiety for a first fucosyltransferase, said method  
3   comprising:

4       (a) contacting said glycopeptide with a glycosyltransferase other than a fucosyltransferase  
5             and a donor moiety other than a fucose donor moiety, thereby glycosylating the  
6             glycopeptide with a glycosyl moiety other than a fucose unit, wherein the  
7             glycosyltransferase is a member selected from the group consisting of  
8             galactosyltransferase, sialyltransferase and combinations thereof, and

9       (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
10            moiety and the first fucosyltransferase under appropriate conditions to transfer  
11            fucose from the fucose donor moiety to the acceptor moiety, such that the  
12            glycopeptide has a substantially uniform fucosylation pattern.

1   **Claim 66.**     (Currently amended) A method for modifying the glycosylation pattern of a  
2   glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first  
3   fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4   comprising:

5       (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6            moiety and the first fucosyltransferase under appropriate conditions to transfer

7                   fucose from the fucose donor moiety to the acceptor moiety, such that the  
8                   glycopeptide has a substantially uniform fucosylation pattern;  
9           wherein the glycopeptide comprises a second acceptor moiety for a second  
10           fucosyltransferase, and

11           (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
12           moiety and the second fucosyltransferase under appropriate conditions to transfer  
13           fucose from the fucose donor moiety to the acceptor moiety, such that the  
14           glycopeptide has a substantially uniform fucosylation pattern.

1   **Claim 67.**   (Currently amended) A method for modifying the glycosylation pattern of a  
2   glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first  
3   fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4   comprising:

5           (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6           moiety and the first fucosyltransferase under appropriate conditions to transfer  
7           fucose from the fucose donor moiety to the acceptor moiety, such that the  
8           glycopeptide has a substantially uniform fucosylation pattern;  
9           wherein the glycopeptide comprises a second acceptor moiety for a second  
10           fucosyltransferase; and

11           (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
12           moiety and the second fucosyltransferase under appropriate conditions to transfer  
13           fucose from the fucose donor moiety to the acceptor moiety, such that the  
14           glycopeptide has a substantially uniform fucosylation pattern;  
15           wherein the glycopeptide is contacted with the first fucosyltransferase and the second  
16           fucosyltransferase simultaneously.

1   **Claim 68.**   (Currently amended) A method for modifying the glycosylation pattern of a  
2   glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first

3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6 moiety and the first fucosyltransferase under appropriate conditions to transfer  
7 fucose from the fucose donor moiety to the acceptor moiety, such that the  
8 glycopeptide has a substantially uniform fucosylation pattern;

9 wherein the glycopeptide comprises a second acceptor moiety for a second  
10 fucosyltransferase, and

11 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
12 moiety and the second fucosyltransferase under appropriate conditions to transfer  
13 fucose from the fucose donor moiety to the acceptor moiety, such that the  
14 glycopeptide has a substantially uniform fucosylation pattern; and

15 wherein the second fucosyltransferase is a member selected from FucT-IV, FucT-V,  
16 FucT-VI, FucT-VII and combinations thereof.

1 **Claim 69.** (Cancelled)

1 **Claim 70.** (Currently amended) A method for modifying the glycosylation pattern of a  
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first  
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6 moiety and the first fucosyltransferase under appropriate conditions to transfer  
7 fucose from the fucose donor moiety to the acceptor moiety, such that the  
8 glycopeptide has a substantially uniform fucosylation pattern;

9 wherein the glycopeptide is a fragment of a full length glycopeptide comprising an active  
10 site of the full-length glycopeptide.

1 **Claim 71.** (Currently amended) A method for modifying the glycosylation pattern of a  
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first  
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6 moiety and the first fucosyltransferase under appropriate conditions to transfer  
7 fucose from the fucose donor moiety to the acceptor moiety, such that the  
8 glycopeptide has a substantially uniform fucosylation pattern;  
9 wherein the glycopeptide is an IgG chimera.

1 **Claim 72.** (Currently amended) A method for modifying the glycosylation pattern of a  
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first  
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6 moiety and the first fucosyltransferase under appropriate conditions to transfer  
7 fucose from the fucose donor moiety to the acceptor moiety, such that the  
8 glycopeptide has a substantially uniform fucosylation pattern;  
9 wherein the glycopeptide is a hormone, a growth factor, an enzyme, an enzyme inhibitor,  
10 a cytokine, and a receptor.

1 **Claim 73.** (Currently amended) A method for modifying the glycosylation pattern of a  
2 glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first  
3 fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4 comprising:

5 (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
6 moiety and the first fucosyltransferase under appropriate conditions to transfer

7                    fucose from the fucose donor moiety to the acceptor moiety, such that the  
8                    glycopeptide has a substantially uniform fucosylation pattern;  
9                    wherein the glycopeptide is on a cell.

1    **Claim 74.**     (Currently amended) A method for modifying the glycosylation pattern of a  
2    glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first  
3    fucosyltransferase is eukaryotic and lacks a membrane anchoring domain, said method  
4    comprising:

5                    contacting said glycopeptide with a glycosyltransferase selected from the group  
6                    consisting of galactosyltransferase, sialyltransferase and combinations thereof,  
7                    and a donor moiety other than a fucose donor moiety, thereby glycosylating the  
8                    glycopeptide with a glycosyl moiety other than a fucose unit; and

9                    (a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
10                    moiety and the first fucosyltransferase under appropriate conditions to transfer  
11                    fucose from the fucose donor moiety to the acceptor moiety, such that the  
12                    glycopeptide has a substantially uniform fucosylation pattern.

1    **Claim 75.**     (Currently amended) A method of producing a recombinant glycopeptide having  
2    a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3    fucosylation pattern, said method comprising:

4                    (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
5                    fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-  
6                    IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate  
7                    conditions to transfer fucose from the fucose donor moiety to a fucose acceptor  
8                    moiety on said recombinant glycopeptide, thereby producing a fucosylated  
9                    recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,  
10                    lacks a membrane anchoring domain, and is a member selected from FucT-IV,  
11                    FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

wherein the glycopeptide comprises a second acceptor moiety for a second fucosyltransferase;

(b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor moiety and the second fucosyltransferase under appropriate conditions to transfer fucose from the fucose donor moiety to the second acceptor moiety; and

(c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation pattern substantially identical to the known fucosylation pattern is obtained.

**Claim 76.** (Currently amended) A method of producing a recombinant glycopeptide having a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known fucosylation pattern, said method comprising:

(a) contacting the recombinant glycopeptide with a reaction mixture that comprises a fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate conditions to transfer fucose from the fucose donor moiety to a fucose acceptor moiety on said recombinant glycopeptide, thereby producing a fucosylated recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain, and is a member selected from FucT-IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

wherein the glycopeptide comprises a second acceptor moiety for a second fucosyltransferase;

(b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor moiety and the second fucosyltransferase under appropriate conditions to transfer fucose from the fucose donor moiety to the acceptor moiety, such that the glycopeptide has a substantially uniform fucosylation pattern;

wherein the glycopeptide is contacted with the first fucosyltransferase and the second fucosyltransferase simultaneously; and

(c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 77.** (Currently amended) A method of producing a recombinant glycopeptide having  
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-  
6 IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate  
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor  
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated  
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,  
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,  
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

12 wherein the glycopeptide comprises a second acceptor moiety for a second  
13 fucosyltransferase;

14 (b) contacting the glycopeptide with a reaction mixture that comprises a fucose donor  
15 moiety and the second fucosyltransferase under appropriate conditions to transfer  
16 fucose from the fucose donor moiety to the acceptor moiety, such that the  
17 glycopeptide has a substantially uniform fucosylation pattern; and

18 wherein the second fucosyltransferase is a member selected from FucT-IV, FucT-V,  
19 FucT-VI, FucT-VII, and combinations thereof; and

20 (c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation  
21 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 78.** (Cancelled)

1 **Claim 79.** (Currently amended) A method of producing a recombinant glycopeptide having  
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3 fucosylation pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-

6           ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof~~, under appropriate  
7           conditions to transfer fucose from the fucose donor moiety to a fucose acceptor  
8           moiety on said recombinant glycopeptide, thereby producing a fucosylated  
9           recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,  
10          lacks a membrane anchoring domain, and is a member selected from FucT-IV,  
11          FucT-V, FucT-VI, FucT-VII, and combinations thereof; and  
12          wherein the glycopeptide is a fragment of a full length glycopeptide comprising an active  
13          site of the full-length glycopeptide; and  
14          (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation  
15          pattern substantially identical to the known fucosylation pattern is obtained.

1   **Claim 80.**     (Currently amended) A method of producing a recombinant glycopeptide having  
2   a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3   fucosylation pattern, said method comprising:

4           (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
5           fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-  
6           ~~IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof~~, under appropriate  
7           conditions to transfer fucose from the fucose donor moiety to a fucose acceptor  
8           moiety on said recombinant glycopeptide, thereby producing a fucosylated  
9           recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,  
10          lacks a membrane anchoring domain, and is a member selected from FucT-IV,  
11          FucT-V, FucT-VI, FucT-VII, and combinations thereof; and  
12          wherein the glycopeptide is an IgG chimera; and  
13          (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation  
14          pattern substantially identical to the known fucosylation pattern is obtained.

1   **Claim 81.**     (Currently amended) A method of producing a recombinant glycopeptide having  
2   a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3   fucosylation pattern, said method comprising:



- 4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
5 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-  
6 IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate  
7 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor  
8 moiety on said recombinant glycopeptide, thereby producing a fucosylated  
9 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,  
10 lacks a membrane anchoring domain, and is a member selected from FucT-IV,  
11 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and  
12 wherein the glycopeptide is a hormone, a growth factor, an enzyme, an enzyme inhibitor,  
13 a cytokine, and a receptor; and  
14 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation  
15 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 82.** (Currently amended) A method of producing a recombinant glycopeptide having  
2 a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known  
3 fucosylation pattern, said method comprising:

- 4 (a) contacting said glycopeptide with a glycosyltransferase other than a fucosyltransferase  
5 and a donor moiety other than a fucose donor moiety, thereby glycosylating the  
6 glycopeptide with a glycosyl moiety other than a fucose unit, wherein the  
7 glycosyltransferase is a member selected from the group consisting of  
8 galactosyltransferase, sialyltransferase and combinations thereof  
9 (b) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
10 fucose donor moiety and ~~[[the]]~~ a first fucosyltransferase, is selected from FucT-  
11 IV, FucT-V, FucT-VI, FucT-VII, and combinations thereof, under appropriate  
12 conditions to transfer fucose from the fucose donor moiety to a fucose acceptor  
13 moiety on said recombinant glycopeptide, thereby producing a fucosylated  
14 recombinant glycopeptide, wherein said first fucosyltransferase is eukaryotic,  
15 lacks a membrane anchoring domain, and is a member selected from FucT-IV,  
16 FucT-V, FucT-VI, FucT-VII, and combinations thereof; and

(c) terminating the transfer of the fucose to the fucose acceptor when the fucosylation pattern substantially identical to the known fucosylation pattern is obtained.

**Claim 83.** (New) A method for modifying the glycosylation pattern of a glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain, and is FucT-VI, said method comprising:

(a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor moiety and the first fucosyltransferase under appropriate conditions to transfer fucose from the fucose donor moiety to the acceptor moiety, such that the glycopeptide has a substantially uniform fucosylation pattern.

**Claim 84.** (New) A method for modifying the glycosylation pattern of a glycopeptide comprising an acceptor moiety for a first fucosyltransferase, wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain, and is FucT-VII, said method comprising:

(a) contacting the glycopeptide with a reaction mixture that comprises a fucose donor moiety and the first fucosyltransferase under appropriate conditions to transfer fucose from the fucose donor moiety to the acceptor moiety, such that the glycopeptide has a substantially uniform fucosylation pattern.

**Claim 85.** (New) A method of producing a recombinant glycopeptide having a fucosylation pattern that is substantially identical to a fucosylated glycopeptide having a known fucosylation pattern, said method comprising:

(a) contacting the recombinant glycopeptide with a reaction mixture that comprises a fucose donor moiety and a first fucosyltransferase, under appropriate conditions to transfer fucose from the fucose donor moiety to a fucose acceptor moiety on said recombinant glycopeptide, thereby producing a fucosylated recombinant glycopeptide;

wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain, and is FucT-VI; and

11 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation  
12 pattern substantially identical to the known fucosylation pattern is obtained.

1 **Claim 86.** (New) A method of producing a recombinant glycopeptide having a fucosylation  
2 pattern that is substantially identical to a fucosylated glycopeptide having a known fucosylation  
3 pattern, said method comprising:

4 (a) contacting the recombinant glycopeptide with a reaction mixture that comprises a  
5 fucose donor moiety and a first fucosyltransferase, under appropriate conditions  
6 to transfer fucose from the fucose donor moiety to a fucose acceptor moiety on  
7 said recombinant glycopeptide, thereby producing a fucosylated recombinant  
8 glycopeptide;

9 wherein said first fucosyltransferase is eukaryotic, lacks a membrane anchoring domain,  
10 and is FucT-VII; and

11 (b) terminating the transfer of the fucose to the fucose acceptor when the fucosylation  
12 pattern substantially identical to the known fucosylation pattern is obtained.

Appl. No. 09/855,320  
Amdt. dated March 26, 2004  
Reply to Office Action of November 17, 2003

PATENT

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1 replaces the original sheet including Fig. 1.

Attachment: Replacement Sheet